

**CLAIM AMENDMENTS**

Please amend the claims as follows:

1 *Sub*  
2 *DI*  
3 *CH* 29. (Previously Added) A method of sending improved quality video data to a  
4 client, comprising:  
5 sending a video stream to said client in accordance with a set of streaming  
6 constraints, said video stream comprising at least a subset of video information  
7 from a first source;  
8 receiving a signal indicating a relaxation of said streaming constraints;  
9 in response to said signal, accessing a set of improved quality video  
10 information from a second source, said improved quality video information  
11 comprising an improved quality version of at least a subset of the video  
12 information in said video stream, wherein said improved quality video  
13 information includes a plurality of still images; and  
sending said plurality of still images to said client for display at a  
presentation rate.

30. (Cancelled)

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80. (New) A method of manipulating digital video data comprising:

accessing digital audio-visual data, representing an audio-visual work and including data for a plurality of video frames;

determining a start position for frame data representing each of the plurality of frames;

generating tag data including data representing the start position and other frame related data for each of the plurality of frames; and

storing the tag data separate from the digital audio-visual data.

81. (New) The method of claim 80, wherein the tag data includes a time value for each frame.

82. (New) The method of claim 80, wherein the digital audio-visual data further includes non-video data and the tag data includes data referencing the non-video data.

83. (New) The method of claim 80, wherein the other frame related data includes data representing an end position for each frame.

84. (New) The method of claim 80, wherein the digital audio-visual data represents different types of frames and the other frame related data includes data indicating a frame type for each of the video frames.

85. (New) The method of claim 84, wherein the digital audio-visual data is MPEG data.

86. (New) The method of claim 85, wherein the tag data includes, for each video frame (F, G), state data representing a state of one or more state machines.

1 87. (New) The method of claim 80, wherein the tag data is generated as the  
2 audio-visual work is displayed.

1 88. (New) The method of claim 87, wherein the tag data is saved as a separate  
2 file.

1 89. (New) The method of claim 80, wherein the digital audio-visual data is  
2 stored in multiple storages.

1 90. (New) The method of claim 80, wherein the digital audio-visual data is  
2 stored remote from where it is displayed.

1 91. (New) The method of claim 90, wherein the digital audio-visual data is  
2 communicated over a network to the location where it is displayed.

1 92. (New) The method of claim 80, further comprising:  
2 displaying the audio-visual work from a first position in the digital audio-  
3 visual data;  
4 receiving a control signal while displaying;  
5 inspecting the tag data;  
6 determining a target position based on the inspected tag data;  
7 ceasing to perform the audio-visual work from the first position;  
8 accessing the target position in the digital representation of the audio-  
9 visual work; and  
10 performing the audio-visual work from the accessed target position.

1 93. (New) The method of claim 92, wherein the control signal indicates a  
2 determinable target position, different from the first position, in the digital data.

1 94. (New) The method of claim 92, wherein determining the target position  
2 includes reading the tag data to determine a start position of a frame for the target.

1 95. (New) The method of claim 92, wherein determining the target position  
2 includes determining a target frame based on the inspected tag data and  
3 determining the target position to be a position, within the digital audio-visual  
4 data, corresponding to the target frame.

1 96. (New) The method of claim 92, wherein the control signal indicates a  
2 determinable period of time and the target position is determined based on the  
3 first position and the determinable period of time.

1 97. (New) The method of claim 96, wherein inspecting the tag data includes  
2 inspecting a time value and determining the target position is based upon the  
3 inspected time value and the determinable period of time.

1 98. (New) The method of claim 92, further comprising communicating prefix  
2 data prior to communicating data from the target position.

1 99. (New) The method of claim 92, wherein the digital audio-visual data  
2 represents different types of frames, the other frame related data includes data  
3 indicating a frame type for each the video frame and determining the target  
4 position is based upon the frame type of the video frames at or near the target  
5 position.

1 100. (New) The method of claim 80, further comprising:  
2 displaying the audio-visual work at a first video-frame display rate;  
3 receiving a control signal, while displaying, indicating that the audio-  
4 visual work is to be displayed at a second video-frame display rate different from  
5 the first video-frame display rate; and  
6 displaying the audio-visual work at the second video-frame display rate.

1 101. (New) The method of claim 100, wherein the second video-frame display  
2 rate is greater than the first video-frame display rate.

1 102. (New) The method of claim 101, wherein frames are selected for display at  
2 the second video-frame display rate based on video frame types.

1 103. (New) The method of claim 100, wherein the second video-frame display  
2 rate causes the display of the audio-visual data to be in reverse.

1 104. (New) The method of claim 100, further comprising selecting a selected set  
2 of video frames from the audio-visual work based on the second video-frame  
3 display rate and sizes of video frame data that correspond to said video frames.

1 105. (New) The method of claim 104, wherein said selecting the selected set of  
2 video frames includes repeatedly performing the steps of:  
3 determining a bit budget; and  
4 determining a size of the frame data that corresponds to a current frame  
5 and if the size of the frame data that corresponds to the current frame exceeds said  
6 bit budget, then not selecting said current frame as a video frame in said selected  
7 set of video frames and if the size of the frame data that corresponds to the current  
8 frame does not exceed said bit budget, then selecting said current frame as a video  
9 frame in said selected set of video frames.

1 106. (New) The method of claim 105, wherein the bit budget is based on a first  
2 time value associated with a most recently selected video frame, a second time  
3 value associated with the current frame, said second presentation rate and a data  
4 transfer rate.

1 107. (New) The method of claim 100, further comprising selecting a selected set  
2 of video frames from the audio-visual work based on the second video-frame  
3 display rate and on video frame types.

1 108. (New) The method of claim 107, wherein said sequence of video frame data  
2 includes at least one type of video frame data from which said corresponding  
3 video frame can be constructed without reference to any other video frame data,  
4 and at least one type of video frame data from which said corresponding video  
5 frame cannot be constructed without reference to any other video frame data.

1 109. (New) The method of claim 108, wherein said selecting comprises skipping  
2 a frame that requires information that has already been skipped.

1 110. (New) The method of claim 100, further comprising selecting a selected set  
2 of video frames from the audio-visual work and inserting prefix data prior to each  
3 selected video frame.

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1 111. (New) The method of claim 80, further comprising:  
2 displaying the audio-visual work in accordance with a set of streaming  
3 constraints;  
4 receiving a signal indicating a relaxation of said streaming constraints;  
5 in response to said signal, accessing a set of improved quality information,  
6 said improved quality information comprising an improved quality version of at  
7 least a subset of the information in said audio-visual work; and  
8 displaying at least a subset of the improved quality information.


1 112. (New) The method of claim 111, wherein said accessing the set of  
2 improved quality information comprises:  
3 determining a first reference point in the audio-visual work;  
4 correlating the first reference point with a second reference point in the set  
5 of improved quality information; and



6 retrieving the subset of the improved quality information based on said  
7 second reference point.

1 113. (New) The method of claim 111, wherein the set of improved quality  
2 information comprises a still image.

1 114. (New) The method of claim 113, wherein the still image takes the form of  
2 an image file selected from the group consisting of a JPEG file, a GIF file, a BMP  
3 file, a TIFF file, a PIC file, a MAC file and a PCD file.

 1 115. (New) The method of claim 111, wherein the set of improved quality  
2 information comprises preprocessed audio-visual information ready to be  
3 streamed.

1 116. (New) The method of claim 111, wherein the signal indicates that  
2 information is to be displayed at a slower presentation rate.

1 117. (New) The method of claim 116, wherein said displaying at least a subset of  
2 the set of improved quality information comprises displaying a plurality of still  
3 images.

1 118. (New) The method of claim 116, further comprising sending the subset of  
2 the set of improved quality information to a client at an appropriate streaming rate  
3 to accommodate the slower presentation rate.

1 119. (New) The method of claim 111, wherein the signal indicates that  
2 information display is to be paused.

1 120. (New) An audio-visual information delivery system for managing the  
2 display of an audio-visual work comprising:

a source of digital audio-visual data representing of an audio-visual work for display, the digital data including frame data representing a plurality of the video frames;

a tag data generator for generating, for each video frame, tag data representing a start position and other frame related data for each of the plurality of frames; and

a storage for the tag data, separate from the digital audio-visual data source.

121. (New) The system of claim 120, wherein the tag data includes a time value for each frame.

122. (New) The system of claim 120, wherein the digital audio-visual data further includes non-video data and the other tag data includes data referencing the non-video data.

123. (New) The system of claim 122, wherein the other frame related data includes data representing an end position for each frame.

124. (New) The system of claim 122, wherein the digital audio-visual data represents different types of frames and the other frame related data includes data indicating a frame type for each the video frame.

125. (New) The system of claim 124, wherein the digital audio-visual data is MPEG data.

126. (New) The system of claim 125, wherein the tag data includes, for each video frame (F, G), state data representing a state of one or more state machines.

127. (New) The system of claim 122, wherein the tag data is generated as the audio-visual work is displayed.

1 128. (New) The system of claim 127, wherein the tag data is saved as a separate  
2 file.

1 129. (New) The system of claim 122, wherein the digital audio-visual data  
2 source includes multiple separate storages.

1 130. (New) The system of claim 122, wherein the digital audio-visual data  
2 source includes storage remote from where the audio-visual work is displayed.

1 131. (New) The system of claim 130, wherein the digital audio-visual data is  
2 communicated over a network from the audio-visual storage to the location where  
3 it is displayed.

1 132. (New) The system of claim 120, wherein the system is configured to:  
2 display the audio-visual work from a first position in the digital audio-  
3 visual data;  
4 receive a control signal;  
5 inspect the tag data in response to the received signal;  
6 determine the target position based on the inspected tag data;  
7 cease performing the audio-visual work from the first position;  
8 access the target position in the digital representation of the audio-visual  
9 work; and  
10 continue performing the audio-visual work from the accessed target  
11 position.

1 133. (New) The system of claim 132, wherein the control signal indicates a  
2 determinable target position, different from the first position, in the digital data.

1 134. (New) The system of claim 132, wherein determining the target position  
2 includes reading the tag data to determine a start position of a frame for the target.

1 135. (New) The system of claim 132, wherein the target position is determined  
2 by determining a target frame based on the inspected tag data and determining the  
3 target position to be a position, within the digital audio-visual data, corresponding  
4 to the target frame.

1 136. (New) The system of claim 135, wherein the control signal indicates a  
2 determinable period of time and the target position is determined based on the  
3 first position and the determinable period of time.

1 137. (New) The system of claim 136, wherein a time value in the tag data is  
2 inspected and the target position determined based upon the inspected time value  
3 and the determinable period of time.

1 138. (New) The system of claim 137, wherein prefix data is inserted prior to data  
2 from the target position.

1 139. (New) The system of claim 135, wherein the digital audio-visual data  
2 represents different types of frames, the other frame related data includes data  
3 indicating a frame type for each of the video frames and the system is configured  
4 to determine the target position based upon the frame type of the video frames at  
5 or near the target position.

1 140. (New) The system of claim 120, wherein when the control signal is  
2 received when the audio-visual work is being displayed at a first video-frame  
3 display rate, the system is configured to cause the display of the audio-visual  
4 work at a second video-frame display rate different from the first video-frame  
5 display rate.

1 141. (New) The system of claim 140, wherein the second video-frame display  
2 rate is greater than the first video-frame display rate.

1 142. (New) The system of claim 141, wherein the system selects frames display  
2 at the second video-frame display rate based on video frame types.

1 143. (New) The system of claim 140, wherein the system causes the display of  
2 the audio-visual data to be in reverse.

1 144. (New) The system of claim 140, wherein a selected set of video frames are  
2 selected from the audio-visual work based on the second video-frame display rate  
3 and sizes of video frame data that correspond to said video frames.

1 145. (New) The system of claim 144, wherein the selected set of video frames  
2 are selected by the system repeatedly performing the steps of:  
3 determining a bit budget; and  
4 determining a size of the frame data that corresponds to a current frame  
5 and if the size of the frame data that corresponds to the current frame exceeds said  
6 bit budget, then not selecting said current frame as a video frame in said selected  
7 set of video frames and if the size of the frame data that corresponds to the current  
8 frame does not exceed said bit budget, then selecting said current frame as a video  
9 frame in said selected set of video frames.

1 146. (New) The system of claim 145, wherein the bit budget is based on a first  
2 time value associated with a most recently selected video frame, a second time  
3 value associated with the current frame, said second presentation rate and a data  
4 transfer rate.

1 147. (New) The system of claim 140, wherein a selected set of video frames are  
2 selected from the audio-visual work based on the second video-frame display rate  
3 and video frame types.

1 148. (New) The system of claim 147, wherein said sequence of video frame data  
2 includes at least one type of video frame data from which said corresponding  
3 video frame can be constructed without reference to any other video frame data,  
4 and at least one type of video frame data from which said corresponding video  
5 frame cannot be constructed without reference to any other video frame data.

1 149. (New) The system of claim 148, wherein a frame skipped that requires  
2 information that has already been skipped.

1 150. (New) The system of claim 140, wherein a selected set of video frames are  
2 selected from the audio-visual work and inserts prefix data prior to each selected  
3 video frame.

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*Def*  
1 151. (New) The system of claim 120, wherein the system is configured to:  
2 display the audio-visual work in accordance with a set of streaming  
3 constraints;  
4 receive a signal indicating a relaxation of said streaming constraints,  
5 wherein in response to the signal, the system accesses a set of improved quality  
6 information, said improved quality information comprising an improved quality  
7 version of at least a subset of the information in said audio-visual work; and  
8 display at least a subset of the improved quality information.

1 152. (New) The system of claim 151, wherein the system accesses the set of  
2 improved quality information by determining a first reference point in the audio-  
3 visual work, correlating the first reference point with a second reference point in  
4 the set of improved quality information and retrieving the subset of the improved  
5 quality information based on said second reference point.

1 153. (New) The system of claim 151, wherein the set of improved quality  
2 information comprises a still image.

1 154. (New) The system of claim 153, wherein the still image takes the form of  
2 an image file selected from the group consisting of a JPEG file, a GIF file, a BMP  
3 file, a TIFF file, a PIC file, a MAC file and a PCD file.

1 155. (New) The system of claim 151, wherein the set of improved quality  
2 information comprises preprocessed audio-visual information ready to be  
3 streamed.

1 156. (New) The system of claim 151, wherein the signal indicates that  
2 information is to be displayed at a slower presentation rate.

DK 1 157. (New) The system of claim 156, wherein at least a subset of the set of  
2 improved quality information are displayed by displaying a plurality of still  
3 images.

1 158. (New) The system of claim 156, wherein the subset of the set of improved  
2 quality information are send to a client at an appropriate streaming rate to  
3 accommodate the slower presentation rate.

1 159. (New) The system of claim 151, wherein the signal indicates that  
2 information display is to be paused.

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